

ABSTRACT OF THE DISCLOSURE

There is disclosed a method of manufacturing a semiconductor device comprising forming a diffusion region containing arsenic impurity at a concentration of $1 \times 10^{20} \text{ cm}^{-3}$ or more in an element region of Si substrate which is isolated by an element isolating insulation film with a gate electrode being employed as a mask, depositing Ni metal all over the substrate, heat-treating the substrate at a temperature of less than 400°C , thereby forming a nickel silicide film containing Ni_2Si on the diffusion region, removing unreacted Ni metal deposited on the element isolating insulation film, heat-treating the substrate at a temperature of 450°C or more, thereby forming an NiSi film having a arsenic compound layer on the surface thereof, removing the arsenic compound layer by an alkaline liquid, depositing an interlayer insulating film the entire surface of the substrate, and forming a wiring layer piercing through the interlayer insulating film.